

WELCOME TO DOE'S *RCRA ORIENTATION FOR FACILITY MANAGERS* COURSEWARE

- Background** This module comprises one component of courseware materials that were developed by DOE's Office of Environmental Policy and Assistance, RCRA/CERCLA Division, EH-413, in response to a request from the Deputy Assistant Secretary for Nuclear and Facility Safety (EH-3). The original course was titled *RCRA Orientation for Nuclear and Facility Safety* and was presented on March 5, 1997, at Germantown, MD. Presentation materials were derived from the more formal three-day course titled DOE's *RCRA Orientation Workshop*, which was developed by EH-413 under a joint funding venture that included the Savannah River Site and the Albuquerque Operations Office.
- Courseware Content** Although derived from the three-day workshop, DOE's *RCRA Orientation for Nuclear and Facility Safety* (now titled *RCRA Orientation for Facility Managers*) was expanded by developing two new modules to meet the needs of Nuclear Safety Managers. One of the new modules (*Corrective Action*) compares and contrasts RCRA closure and corrective action with CERCLA remedial action by using Oak Ridge Reservation as an example of a radioactively contaminated site closed under RCRA, but undergoing remediation under CERCLA. The other module (*Emerging Issues*) offered a snapshot of the emerging regulations that were expected to impact the Department most dramatically. The remaining courseware modules include:
- Introduction to RCRA and Liability Overview,
 - Overview of Solid Waste Determination,
 - Overview of Hazardous Waste Determination, and
 - Permitting.
- PDF "Handout" files only, which contain the aforementioned modules, are designed to serve as stand-alone resources and are equipped with: (1) A list of module contents, (2) Module-specific enabling objectives; (3) Self-assessment questions and answers; (4) A module-specific regulatory citation/key word index; and (5) A module-specific cross-link table that identifies hypertext links to additional Internet resources for hazardous waste-related information.
- Using the Courseware Materials** Within the PDF Handout modules, users are encouraged to examine the module's Regulatory-Statutory Citation/Key Word Index to identify the availability and location of topics of interest. In contrast, users can simply "dig-in" and sequentially examine the courseware's content. For less extensive reviews or to download additional course presentation materials as needed, users can return to the [*RCRA Orientation for Facility Managers Home Page*](#) to access electronic files containing the remaining PDF Handout and/or Vugraph files.

To assist users in accessing additional Internet resources, where possible, module-specific hypertext links have been inserted into select points within each of the six PDF Handout courseware modules. Hypertext links appear in both the slide and notes portions as either *blue italicized text* (the first time a link to a particular resource is offered in a given module) or *green italicized text* (each subsequent link to that same resource) and have been assigned to terms and phases for which additional Internet resources such as other EH-413 guidance documents, other Internet Websites, etc. are available. Upon identifying a highlighted term or phase of interest, users generally can access the additional Internet resources by clicking on the highlighted text, which will then hypertext link to another Internet resource. Additional information for obtaining those resources that are not Internet-accessible as well as the objectives, content and organization, use, list of acronyms, Internet resources, and master index is presented in the [*Front-End Materials section*](#) (first section).

**Feedback
And
Contacts**

If you have difficulty in downloading or reviewing modules comprising DOE's *RCRA Orientation for Facility Managers*, [contact our Webmaster](#) and please [provide us with feedback](#). If you are interested in attending the three-day *RCRA Orientation Workshop*, please contact the [National Environmental Training Office](#). Additional questions concerning this courseware or the information presented therein may be directed to Atam Sikri of my staff by:

- Calling at (202) 586-1879,
- Faxing messages to (202) 586-0955, or
- Communicating electronically, via Internet, to atam.sikri@eh.doe.gov.



Introduction to the

Resource

Conservation and

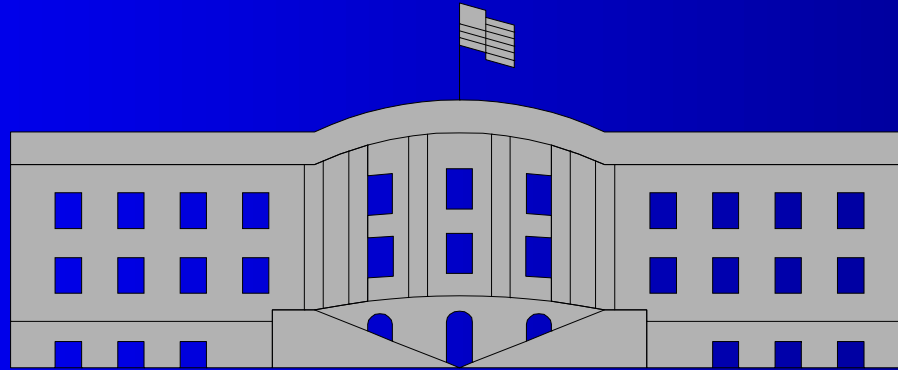
Recovery

Act

and Liability Overview

Overview of RCRA

- **Origin and objectives of the law**
- **History**
- **Hazardous waste “cradle-to-grave” management system**
- **Enforcement**
- **Relationship with other laws**
- **Summary**



Congress establishes the outline of requirements.



EPA fills in the outline and explains the specific criteria the regulated community must meet to comply with the law.

How Does EPA Promulgate Regulations?

**Advance Notice of Proposed Rulemaking
(ANPRM)**



**Notice of Proposed Rulemaking (NPRM)
(Proposed Rule)**



Final Rule and Effective Date



Protect
health
environment

Highlights of RCRA History

- **1965 Solid Waste Disposal Act**
- **1970 Resource Recovery Act**
- **1976 Resource Conservation and Recovery Act (RCRA)**
- **1984 Hazardous and Solid Waste Amendments (HSWA)**
- **1992 Federal Facility Compliance Act (FFCAct)**
- **1996 Land Disposal Program Flexibility Act**

RCRA's Ten Subtitles Are:

- **A: General Provisions**
- **B: Authority of the Administrator**
- **C: Hazardous Waste Management**
- **D: State or Regional Solid Waste Plans**
- **E: Duties of the Secretary of Commerce in Resource Recovery**

RCRA's Ten Subtitles Are ***(cont'd):***

- **F: Federal Responsibilities**
- **G: Miscellaneous**
- **H: Research, Demonstration and Development**
- **I: Underground Storage Tanks**
- **J: Demonstration Medical Waste Tracking Program**

Subtitle F: Federal Responsibilities

Federal agencies “shall be subject to and comply with, all Federal, state, interstate, and local requirements, both substantive and procedural . . . including the payment of reasonable service charges.” Federal agencies are *not “immune or exempt* from any process or sanction of any State or Federal Court with respect to the enforcement of any such injunctive relief.” 42 USC 6962

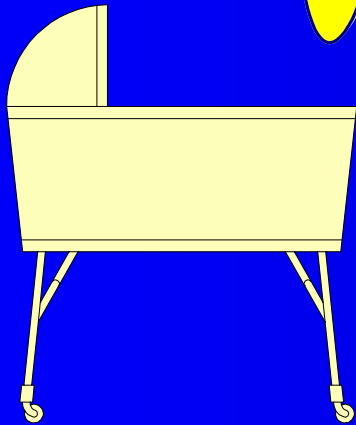
History of DOE Compliance

- **1980: DOE interpreted that RCRA did not apply to DOE**
- **1982: DOE Order required compliance with technical but not administrative requirements**
- **1984: LEAF vs. Hodel**
- **July 3, 1986: EPA notice on mixed waste**
- **May 1, 1987: DOE published “byproduct rule”**

RCRA Orientation Focus

- Subtitle D: Solid waste management
- Subtitle I: *Underground storage tanks*
- Subtitle C: The “cradle-to-grave” hazardous waste mgmt provisions

"Cradle to Grave"



Definition of Hazardous Waste

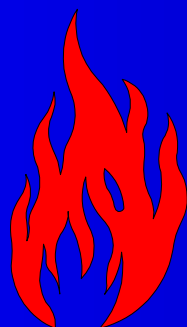


Steps To *Determine If Solid Wastes Are Hazardous Waste*

- Is the waste excluded?
- Is the waste listed?
- Is the waste a characteristic hazard?
- Is the waste subject to special rules that make it hazardous waste?
 - ➡ Is it a mixture?
 - ➡ Is it a treatment residue?
 - ➡ Is it a container that held hazardous waste?

Characteristics of Hazardous Waste

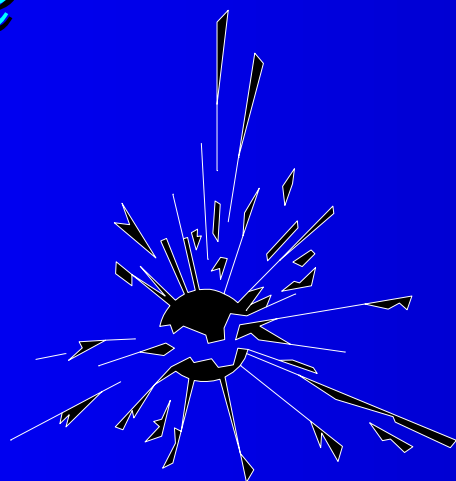
Ignitable



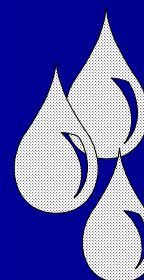
Corrosive



Reactive



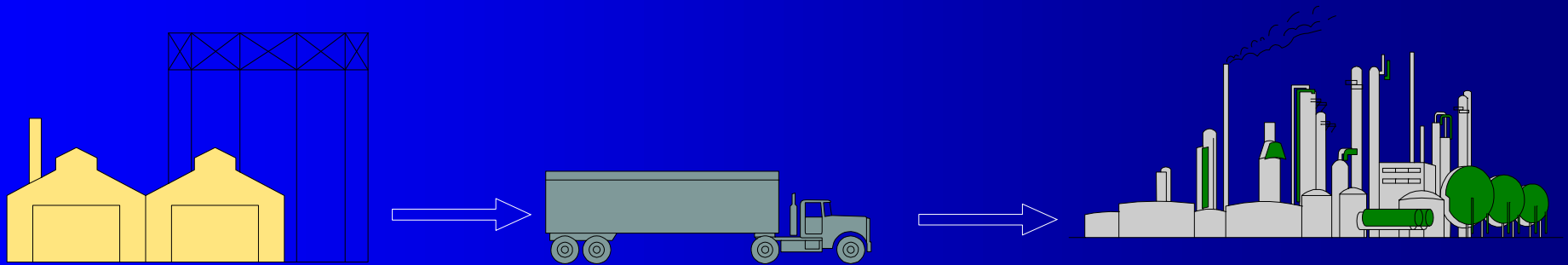
Toxic



Listed Hazardous Waste

- **Listed by EPA because waste possesses one or more of the identified characteristics *OR***
- **Listed by EPA based on the presence of a constituent that has toxic, carcinogenic, mutagenic, or teratogenic effects on humans/animals.**

“Cradle-to-Grave” Management



Generator

Transporter

T
S
D
F

treatment
storage
disposal
facility

What Is A *Generator*?

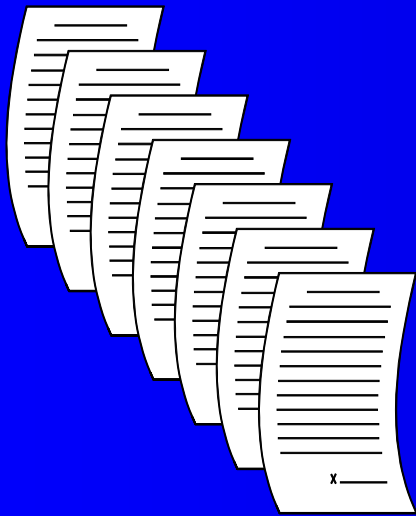
Under 40 CFR 260.10, a generator is “any person, by site, whose act or process produces hazardous waste identified or listed in Part 261 of this chapter or whose act first causes a hazardous waste to become subject to regulation.”

Generator Categories

- **Conditionally Exempt Small Quantity Generators (CESQG) generate:**
 - ⇒ < 100 kg/month or
 - ⇒ < 1 kg of acute hazardous waste/month
- **Small Quantity Generators (SQG) generate 100 to 1000 kg/month**
- **Large Quantity Generators (LQG) generate:**
 - ⇒ 1000 kg/month or more, or
 - ⇒ > 1 kg of acute hazardous waste/month

***Generators* Must**

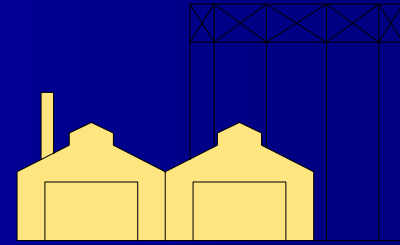
(40 CFR 262)



- **Determine whether solid waste is hazardous**
- **Obtain an EPA identification number**
- **Have waste transported, treated, stored, or disposed of only by other persons with EPA identification numbers**
- **Submit reports of hazardous waste activities**
- **Retain records**

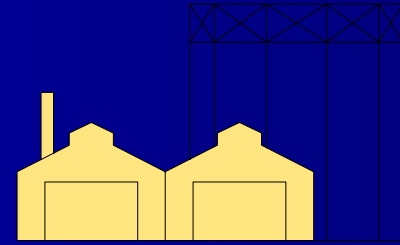
Accumulation Provisions

Satellite Areas

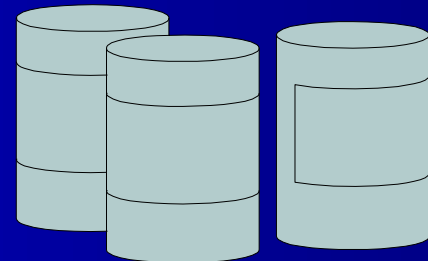


- Store “at or near point of generation”
- Store under control of the process operator
- Comply with specified storage conditions
 - ➡ chemical compatibility
 - ➡ management/labeling
- Store no more than 55 gallons of hazardous waste in one satellite area

Accumulation Provisions 90-Day Areas

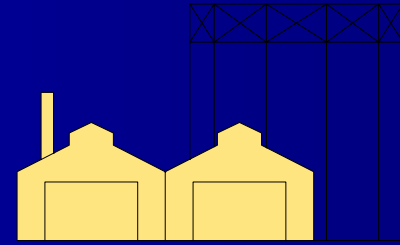


- *Container* storage areas
- *Tanks*
- Containment buildings



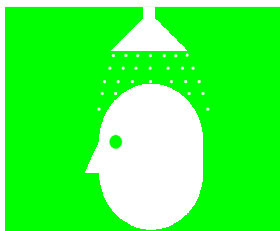
Accumulation Provisions

90-Day Requirements (cont'd)

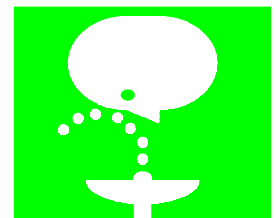


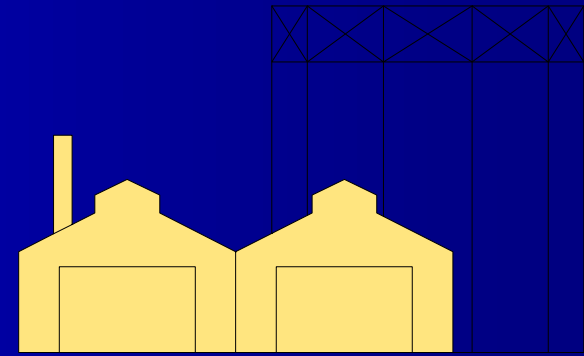
- Label with the words “Hazardous Waste”
- Mark the waste accumulation start date
- *Inspect* the accumulation area
- Meet specified *closure requirements*
- Conduct *training*
- Prepare a *contingency plan*
- Provide *emergency response* equipment

EMERGENCY
SHOWER

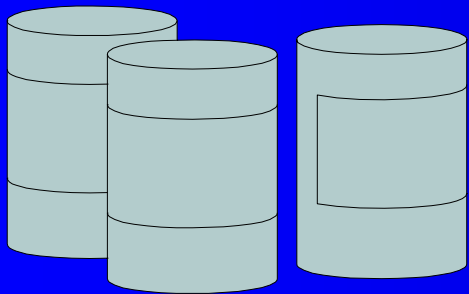


EYE WASH
FOUNTAIN

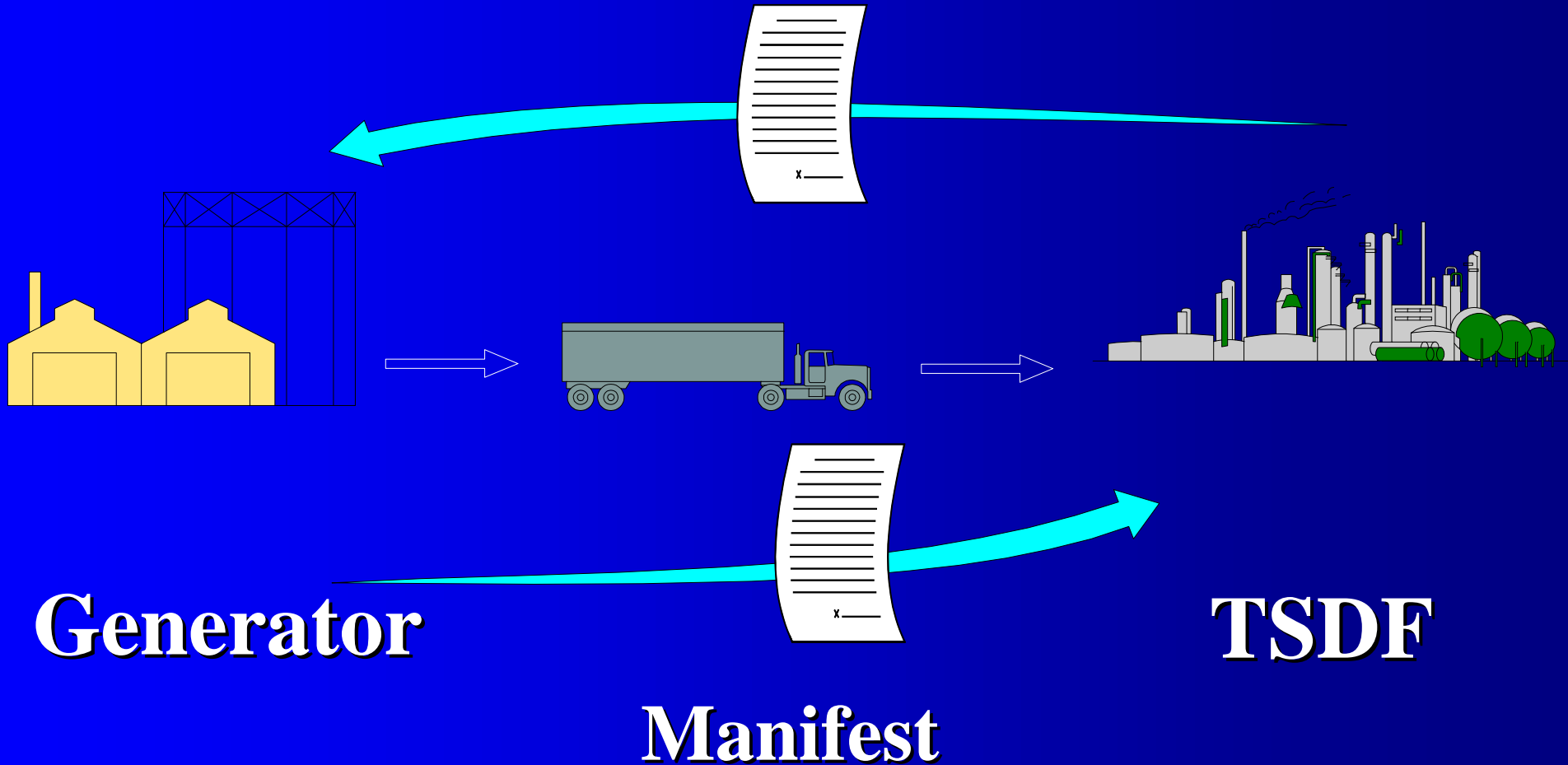




Storage for longer than 90-
days or in units other than the
types specified requires a
permit or *waste shipment off-site*
to a permitted facility.



“Cradle-to-Grave” Management

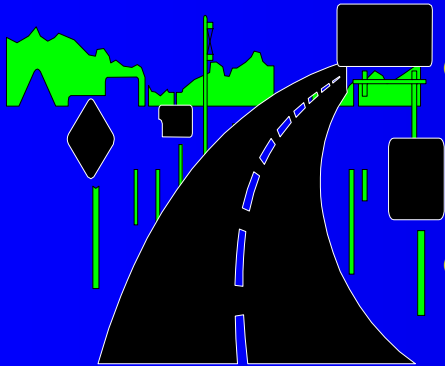


Manifest: A Key Element in Accountability

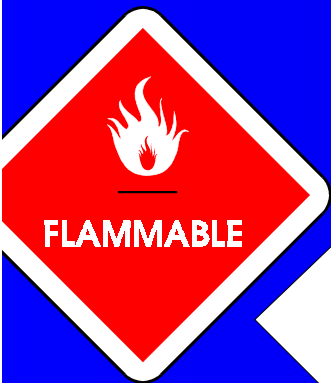
- Unless traveling within or along the boundary of a facility, manifests must accompany wastes on public roads.
- Generator and authorized TSDF facility must be identified.
- Wastes must be *packaged and marked* to comply with DOT regulations.
- Failure to receive completed manifest requires filing an exception report within 45 days.
- Generators must certify that they have a waste minimization program in place.

Transporters **Must**

(40 CFR 263)



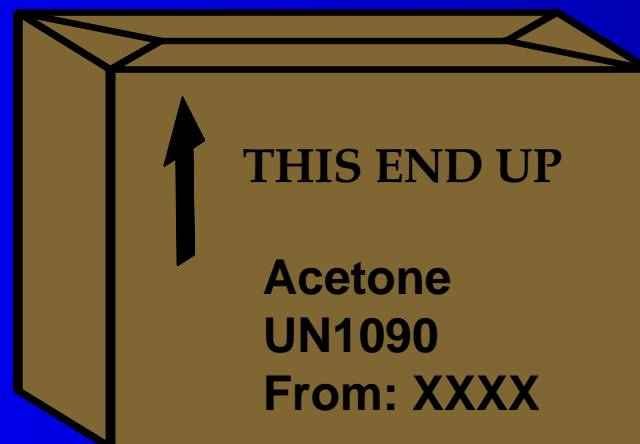
- **Comply with DOT standards under the Hazardous Materials Transportation Act.**
- **Comply with manifest system and retain records for 3 years.**
- **Comply with radioactive waste transport requirements.**
- **Be responsible for cleanup in event of a spill.**



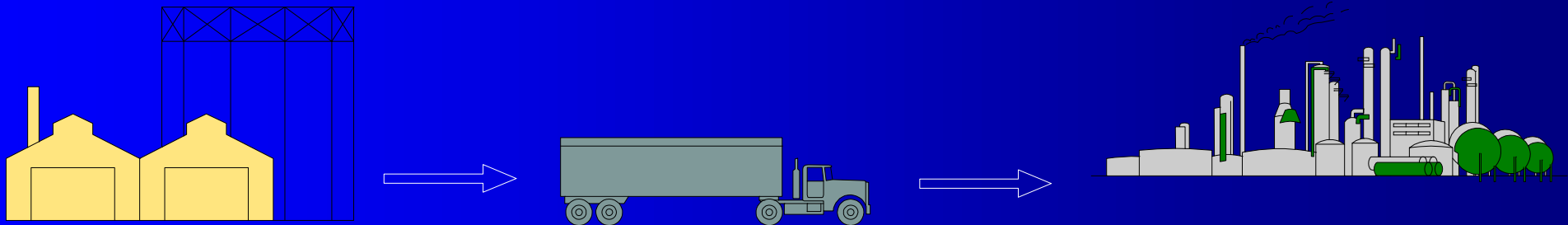
DOT Requires



- *Packaging*
- *Labels*
- *Marks*
- *Placards*



“Cradle-to-Grave” Management



Generator

Transporter

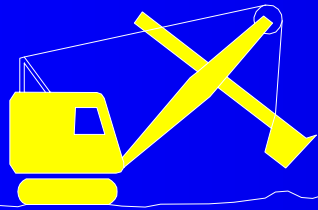
**Treatment
Storage
Disposal
Facility**

RCRA Requires a *Permit* for TSDFs

- **Treatment:** Changing physical, chemical, or biological character or composition.
- **Storage:** Holding waste temporarily before treatment, disposal, or storage elsewhere.
- **Disposal:** Discharging, depositing, injecting, dumping, spilling, leaking, or placing any solid or hazardous waste into or on land or water.

“Cradle-to-Grave” Also Includes *Closure And Post-Closure Care*

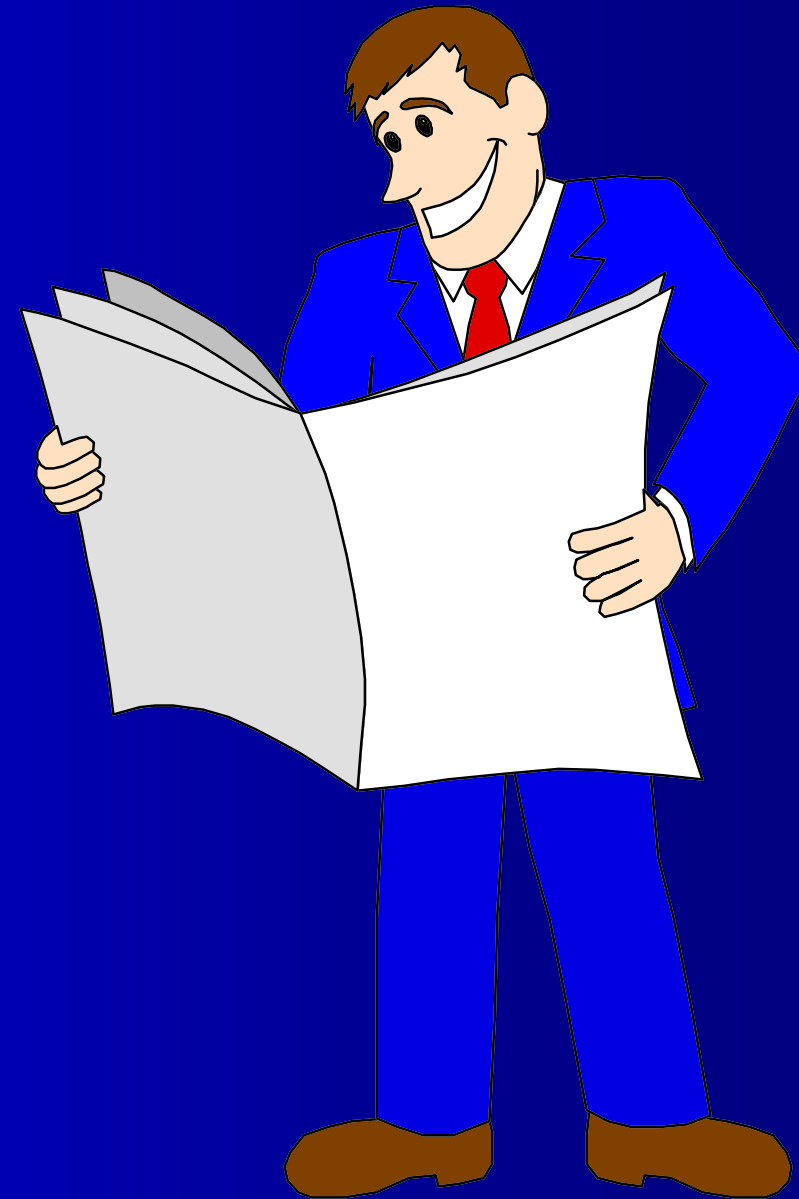
Closure and post-closure care requirements are imposed in the permitting process.



Corrective Action: RCRA's Cleanup Program

- Required for permitted hazardous waste management units, such as landfills, that release
- Required for unregulated units on a site obtaining a permit

More To Come On Permitting And Corrective Action



Additional Requirements Applicable Generators and TSDFs

- **Land Disposal Prohibition**
- **Air Emissions from TSDFs**

LDR: Purpose

HSWA established deadlines for EPA to determine the conditions under which the land disposal of hazardous waste is protective of human health and the environment. Without determinations, HSWA prohibited land disposal.

What is Land Disposal?

Disposal in land-based units such as:

- Landfills, surface impoundments, waste piles
- Salt bed and salt dome formations
- Injection wells
- Underground mines and caves
- Land treatment facilities
- Concrete vaults or bunkers

What Are The *LDRs*?

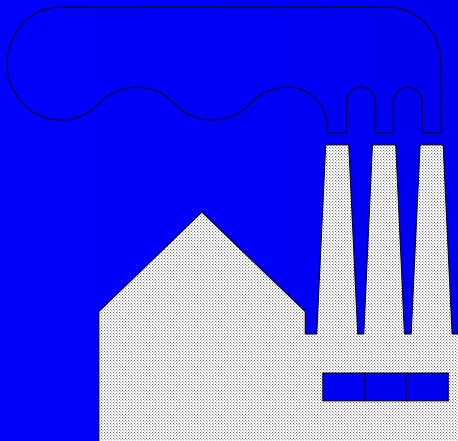
- *Treatment standards* that must be met before land disposal:
 - ⇒ treatment concentrations or
 - ⇒ treatment technologies.
- Administrative requirements to ensure compliance:
 - ⇒ notification of off-site TSDF,
 - ⇒ certification of compliance with the standard, and
 - ⇒ waste analysis and record retention requirements

Also, *Storage Prohibited* Except:



- **Where accumulation is to facilitate treatment or recovery**
- **Where waste is subject to a variance, extension, or approved petition**

Air Emissions From TSDFs



- **Phase I:** Air emissions from *vents* and *equipment leaks*.
- **Phase II:** Control of volatile organic emissions from hazardous waste *surface impoundments, tanks, and container storage*.



Why must we follow
EPA's requirements?



Civil
Enforcement



Federal Enforcement (Civil)

- Suspend or revoke permit
- Fine up to \$25,000/day



Criminal Sanctions for Knowing



- **Transport without a manifest**
- **Treat, store, or dispose without a permit**
- **Falsify records**

Maximum Criminal Penalties

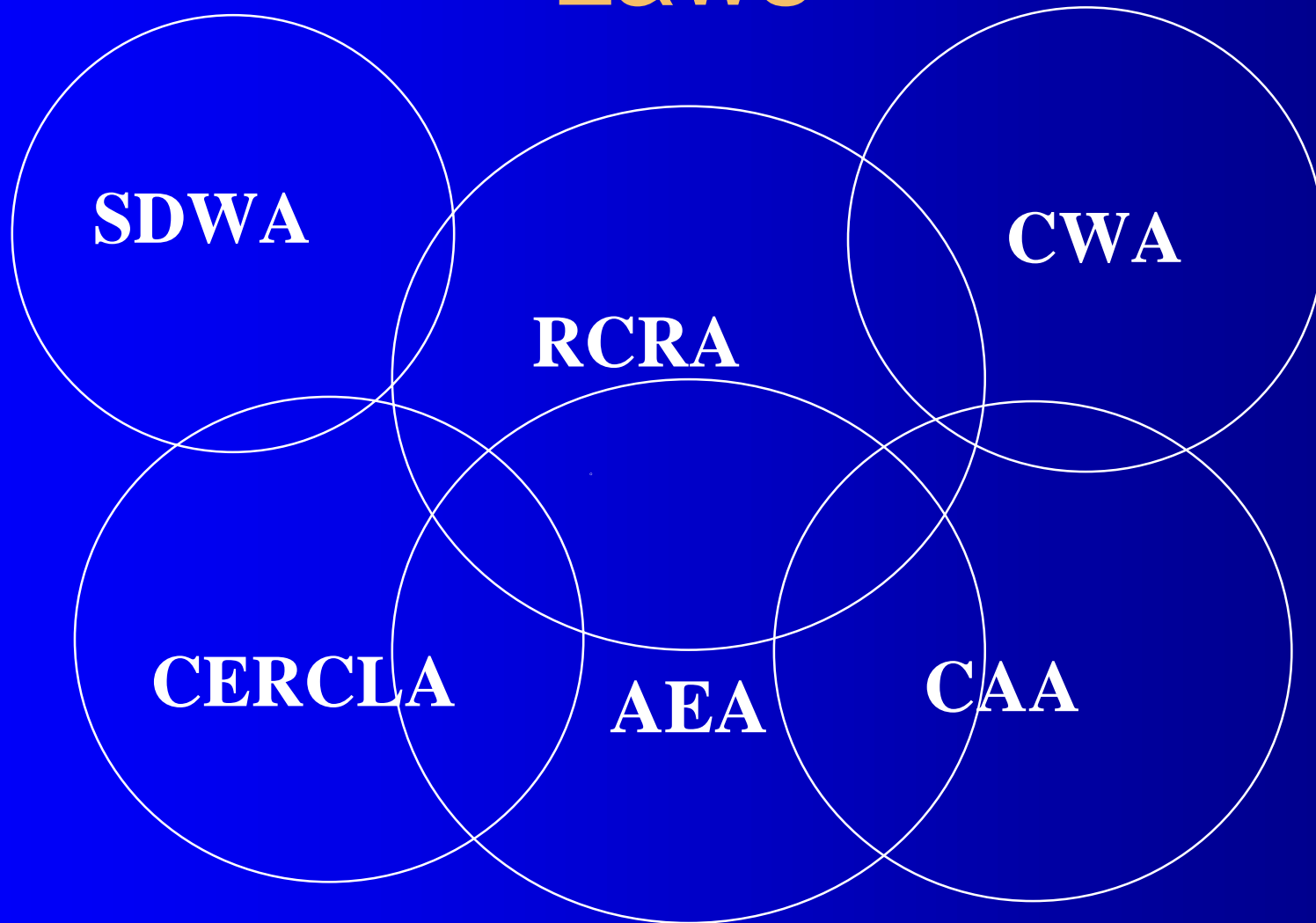


- **First Offense: \$50,000 per day; 2 to 5 years**
- **Second Offense: double penalties**
- **Knowing Endangerment: \$250,000/day; 15 years**

Who Has Enforcement Authority?

- **Authorized states manage the hazardous waste program in lieu of EPA.**
- **To gain authority, states must have:**
 - ➡ **a permitting mechanism and a manifest system**
 - ➡ **adequate administrative and enforcement resources**
 - ➡ **program consistent with federal program.**
- **To gain full authority, states must be authorized for base program and HSWA provisions**

Relationship With Other Laws



Summary

- **Origin and objectives of the law**
- **History**
- **Hazardous waste “cradle-to-grave” management system**
- **Enforcement**
- **Relationship with other laws**

Introduction Module Cross-Links

Module Page/Line	Cross-Link Language	Resource/Document
I-3/Notes, Line 4	“Environmental Protection Agency (EPA)”	Environmental Protection Agency Home Page; http://www.epa.gov/
I-3/Notes, Line 5	“RCRA”	OEPA Environmental Law Summary: Resource Conservation and Recovery Act; http://tis-nt.eh.doe.gov/oepa/law_sum/RCRA.HTM
I-4/Notes, Line 4	“ <i>Federal Register</i> ”	New Federal Regulatory Initiatives; http://tis-nt.eh.doe.gov/oepa/regulate.html
I-4/Notes, Lines 18-19	“Office of Environmental Policy and Assistance (EH-41)”	DOE Office of Environmental Policy and Assistance (OEPA) Website; http://tis-nt.eh.doe.gov/oepa/ or DOE Office of Environmental Policy and Assistance Mirror Website; http://homer.hsr.ornl.gov/oepa/
I-4/Notes, Line 19	“monitors”	New Federal Regulatory Initiatives; http://tis-nt.eh.doe.gov/oepa/regulate.html
I-4/Notes, Line 19	“ responds to EPA rulemakings”	DOE Consolidated Comments - Resource Conservation and Recovery Act; http://tis-nt.eh.doe.gov/oepa/comments/rcra.htm
I-5	N/A	N/A
I-6/Notes, Line 1	“Solid Waste Disposal Act”	OEPA Environmental Law Summary: Resource Conservation and Recovery Act; http://tis-nt.eh.doe.gov/oepa/law_sum/RCRA.HTM
I-6/Notes, Line 9	“RCRA”	OEPA Environmental Law Summary: Resource Conservation and Recovery Act; http://tis-nt.eh.doe.gov/oepa/law_sum/RCRA.HTM
I-6/Notes, Line 14	“Hazardous and Solid Waste Amendments”	OEPA Environmental Law Summary: Resource Conservation and Recovery Act; http://tis-nt.eh.doe.gov/oepa/law_sum/RCRA.HTM
I-6/Notes, Line 17	“Federal Facility Compliance Act (FFCA)”	OEPA Environmental Law Summary: Federal Facility Compliance Act http://tis-nt.eh.doe.gov/oepa/law_sum/FFCA.HTM
I-6/Notes, Line 19	“Land Disposal Program Flexibility Act”	OEPA Environmental Law Summary: Land Disposal Program Flexibility Act of 1996 (P.L. 104-119); http://tis-nt.eh.doe.gov/oepa/law_sum/ldpfa.htm

I-7/Slide, Line 1	“RCRA’s Ten Subtitles”	OEPA Environmental Law Summary: Resource Conservation and Recovery Act; http://tis-nt.eh.doe.gov/oepa/law_sum/RCRA.HTM
I-8/Slide, Line 1	“RCRA’s Ten Subtitles”	OEPA Environmental Law Summary: Resource Conservation and Recovery Act; http://tis-nt.eh.doe.gov/oepa/law_sum/RCRA.HTM
I-9/Slide, Line 1	“Subtitle F”	OEPA Environmental Law Summary: Resource Conservation and Recovery Act; http://tis-nt.eh.doe.gov/oepa/law_sum/RCRA.HTM
I-9/Slide, Lines 7-8	“not `immune or exempt”	OEPA Environmental Law Summary: Federal Facility Compliance Act http://tis-nt.eh.doe.gov/oepa/law_sum/FFCA.HTM
I-10/Notes, Line 2	“Atomic Energy Act”	OEPA Environmental Law Summary: Atomic Energy Act; http://tis-nt.eh.doe.gov/oepa/law_sum/AEA.HTM
I-10/Notes, Line 8	“Department of Energy”	U.S. Department of Energy Home Page; http://www.doe.gov/
I-10/Notes, Line 16	“mixed waste”	Mixed Waste Focus Area; http://wastenot.inel.gov/mwfa/index.html
I-10/Notes, Line 26	“DOE Order 5820.2A”	DOE Directives; http://www.explorer.doe.gov:1776/htmls/directives.html
I-11/Slide, Line 3	“Underground storage tanks”	DOE RCRA Guidance Manual, RCRA Subtitle I Regulated Underground Storage Tanks (USTs) [NOT available on the OEPA Website]
I-11/Notes, Lines 2-3	“sanitary landfills”	Solid Waste Landfills Under RCRA Subtitle D, DOE/EH-0512; [NOT available on OEPA Website]
I-11/Notes, Line 5	“underground storage tanks”	Automated Underground Storage Tank Guidance (Macintosh Version); http://tis-nt.eh.doe.gov/oepa/programs/ust.html
I-11/Notes, Line 6	“petroleum products”	Petroleum USTs, DOE/EH-231-012d/0593; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/petro.pdf
I-11/Notes, Line 6	“hazardous substances”	Hazardous Substance USTs, DOE/EH-231-012e/0593; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/haz_sub.pdf
I-11/Notes, Line 8	“Underground tanks containing hazardous wastes”	General Requirements for RCRA Regulatory Hazardous Waste Tanks, DOE/EH-413-065/1195; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/gentank.pdf
I-11/Notes, Line 8	“deferred”	Deferred USTs, DOE/EH-231-012c/0593; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/defer.pdf
I-12/Notes, Line 8	“hazardous waste generator”	Hazardous Waste Generator Requirements, DOE/EH-231-055/1194 (Revised August 1997); http://tis-nt.eh.doe.gov/oepa/guidance/rcra/gener_rv.pdf

I-13/Notes, Line 7	“determination of whether a material qualifies as solid waste”	Definitions of Solid and Hazardous Wastes (Computer Automated Guidance), Version 1.0, April 1997 [supersedes DOE/EH-273, August 1992]; http://tis-nt.eh.doe.gov/oepa/programs/rcradef.html
I-14/Slide, Lines 1-2	“Determine if Solid Wastes Are Hazardous Wastes”	Definitions of Solid and Hazardous Waste (Computer Automated Guidance), Version 1.0, April 1997 [supersedes DOE/EH-273, August 1992]; http://tis-nt.eh.doe.gov/oepa/programs/rcradef.html
I-15/Slide, Line 1	“Characteristics of Hazardous Waste”	Overview of the Identification of Hazardous Waste under RCRA, DOE/EH-231-007/1291; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/define.pdf
I-15/Slide	“Ignitable” “Corrosive” “Reactive”	Ignitable, Corrosive, Reactive, and Incompatible Wastes; DOE/EH-231-054/1294; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/ignit.pdf
I-15/Slide, Line 3	“Toxic”	Questions and Answers on the RCRA Toxicity Characteristic, DOE/EH-2331-003/0291; [NOT available on OEPA Website]
I-15/Notes, Line 2	“characteristically hazardous waste”	RCRA Definitions of Solid and Hazardous Waste (Computer Automated Guidance), Version 1.0, April 1997 [supersedes DOE/EH-273, August 1992]; http://tis-nt.eh.doe.gov/oepa/programs/rcradef.html
I-16/Slide, Line 1	“Listed Hazardous Waste”	Overview of the Identification of Hazardous Waste under RCRA, DOE/EH-231-007/1291; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/define.pdf
I-16/Notes, Line 1	“listings of hazardous waste”	Identification of Certain RCRA Wastes — the F-Spent Solvent, P, and U Listings, DOE/EH-231-008/1291; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/spent.pdf
I-17/Slide, Line 2	“Generator”	Hazardous Waste Generator Requirements, DOE/EH-231-055/1194 (Revised August 1997); http://tis-nt.eh.doe.gov/oepa/guidance/rcra/gener_rv.pdf
I-17/Slide, Line 2	“Transporter”	Transportation of RCRA Hazardous Wastes, DOE/EH-231-013/0394 (revised); http://tis-nt.eh.doe.gov/oepa/guidance/rcra/trans_rv.pdf
I-17/Notes, Line 2	“those who generate hazardous waste”	Hazardous Waste Generator Requirements, DOE/EH-231-055/1194 (Revised August 1997); http://tis-nt.eh.doe.gov/oepa/guidance/rcra/gener_rv.pdf
I-18/Slide, Line 1	“Generator”	Hazardous Waste Generator Requirements, DOE/EH-231-055/1194 (Revised August 1997); http://tis-nt.eh.doe.gov/oepa/guidance/rcra/gener_rv.pdf
I-18/Notes, Line 3	“generator requirements”	Hazardous Waste Generator Requirements, DOE/EH-231-055/1194 (Revised August 1997); http://tis-nt.eh.doe.gov/oepa/guidance/rcra/gener_rv.pdf

I-19/Slide, Line 1	“Generator Categories”	Special Requirements Applicable to Hazardous Waste Automated Guidance (Windows Version); http://tis-nt.eh.doe.gov/oepa/programs/special.html
I-19/Notes, Line 1	“Generator requirements”	Hazardous Waste Generator Requirements, DOE/EH-231-055/1194 (Revised August 1997); http://tis-nt.eh.doe.gov/oepa/guidance/rcra/gener_rv.pdf
I-19/Notes, Line 1	“Generation category”	Special Requirements Applicable to Hazardous Waste Automated Guidance (Windows Version); http://tis-nt.eh.doe.gov/oepa/programs/special.html
I-19/Notes, Lines 3-4	“conditionally exempt small quantity generator”	Exclusions and Exemptions from RCRA Hazardous Waste Regulation; DOE/EH-231-034/0593; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/exclude.pdf
I-19/Notes, Line 6	“appropriate disposition”	Standards for Non-municipal, Non-hazardous Waste Disposal Units Receiving Hazardous Wastes from Conditionally Exempt Small Quantity Generators (CESQGs); http://tis-nt.eh.doe.gov/oepa/guidance/rcra/cesqg_rb.pdf
I-20/Slide, Line 1	“Generators”	Hazardous Waste Generator Requirements, DOE/EH-231-055/1194 (Revised August 1997); http://tis-nt.eh.doe.gov/oepa/guidance/rcra/gener_rv.pdf
I-20/Notes, Line 1	“generator”	Hazardous Waste Generator Requirements, DOE/EH-231-055/1194 (Revised August 1997); http://tis-nt.eh.doe.gov/oepa/guidance/rcra/gener_rv.pdf
I-20/Notes, Line 4	“reports”	Federal Environmental Notification & Reporting Requirements Handbook, Chapter 6. RCRA, OEPA [HNDBK] 001/11/96 (REV); http://tis-nt.eh.doe.gov/oepa/guidance/caa/rpt_req6.PDF
I-20/Notes, Line 4	“manifests”	Manifest Requirements, DOE/EH-231-038/0394 (revised); http://tis-nt.eh.doe.gov/oepa/guidance/rcra/manif_rv.pdf
I-20/Notes, Lines 11-12	“off-site management facilities”	Guide to Selecting Compliant Off-Site Hazardous Waste Treatment, Storage and Disposal Facilities, DOE/EH-0427; http://tis-nt.eh.doe.gov/oepa/guidance/cercla/sel_tsdf.pdf
I-20/Notes, Line 12	“transporters”	Transportation of RCRA Hazardous Wastes, DOE/EH-231-013/0394 (revised); http://tis-nt.eh.doe.gov/oepa/guidance/rcra/trans_rv.pdf
I-21/Slide, Line 2	“Satellite Areas”	Requirements for Satellite Accumulation Areas, DOE/EH-231-026/0593; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/satellite.pdf
I-21/Notes, Line 1	“satellite accumulation”	Requirements for Satellite Accumulation Areas, DOE/EH-231-026/0593; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/satellite.pdf

I-22/Slide, Line 3	“Container”	Management of Hazardous Waste Containers & Container Storage Areas under RCRA, DOE/EH-0333; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/container/contain_all.pdf
I-22/Slide, Line 4	“Tanks”	Resource Conservation and Recovery Act Hazardous Waste Tank Systems, DOE/EH-413/9716; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/tanks/tanks_all.pdf
I-22/Notes, Line 1	“Container”	Management of Hazardous Waste Containers & Container Storage Areas under RCRA, DOE/EH-0333; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/container/contain_all.pdf
I-22/Notes, Line 3	“Tank”	Resource Conservation and Recovery Act Hazardous Waste Tank Systems, DOE/EH-413/9716; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/tanks/tanks_all.pdf

I-23/Slide, Line 5	“Inspect”	Inspections of RCRA Container Storage Areas, DOE/EH-231-033/0893; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/inspect.pdf
I-23/Slide, Line 6	“closure requirements”	RCRA Closure and Post-Closure Plans, DOE/EH-231-009/1291; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/pcplans.pdf
I-23/Slide, Line 7	“training”	OSHA Training Requirements for Hazardous Waste Operations, DOE/EH-0227P [NOT available on the OEPA Website]
I-23/Slide, Line 8	“contingency plan”	Preparation of RCRA Contingency Plans, DOE/EH-0274 [NOT available on the OEPA Website]
I-23/Slide, Line 9	“emergency response”	RCRA Contingency Plans and Emergency Procedures, DOE/EH-231-006/0991; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/cplans.pdf
I-23/Notes, Line 1	“Containers”	RCRA Waste Container Labeling, Marking, and Placarding Requirements, DOE/EH-231-031/0793; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/labeling.pdf
I-23/Notes, Line 1	“tanks”	Resource Conservation and Recovery Act Hazardous Waste Tank Systems, DOE/EH-413/9716; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/tanks/tanks_all.pdf
I-23/Notes, Line 6	“containers”	Inspections of RCRA Container Storage Areas, DOE/EH-231-033/0893; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/inspect.pdf
I-23/Notes, Line 7	“tanks”	General Requirements for RCRA Regulated Hazardous Waste Tanks, DOE/EH-413-066/1195; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/gentank.pdf
I-23/Notes, Line 8	“closure standards”	Closure of Hazardous and Mixed Waste Management Units at DOE Facilities, DOE/EGD(RCRA)-002/0690 [NOT available on the OEPA Website]
I-23/Notes, Line 11	“Personnel must be trained”	General Facility Standard Requirements, DOE/EH-043/1294 [NOT available on the OEPA Website]
I-23/Notes, Line 15	“plan outlining steps to be taken”	Preparation of RCRA Contingency Plans, DOE/EH-0274 [NOT available on the OEPA Website]
I-23/Notes, Line 19	“emergency response”	RCRA Contingency Plans and Emergency Procedures, DOE/EH-231-006/0991 http://tis-nt.eh.doe.gov/oepa/guidance/rcra/cplans.pdf

I-24/Slide, Line 4	“permit”	RCRA Permitting Guide for Hazardous and Radioactive Mixed Waste Management Facilities, DOE/EH(RCRA)9705 http://tis-nt.eh.doe.gov/oepa/guidance/rcra/permit_a.pdf
I-24/Slide, Line 4	“waste shipment off-site”	Guide to Selecting Compliant Off-Site Hazardous Waste Treatment, Storage, and Disposal Facilities, DOE/EH-0427; http://tis-nt.eh.doe.gov/oepa/guidance/cercla/sel_tsdf.pdf
I-26/Slide, Line 1	“Manifest”	Manifest Requirements, DOE/EH-231-038/0394 (revised); http://tis-nt.eh.doe.gov/oepa/guidance/rcra/manif_rv.pdf
I-26/Slide, Line 8	“packaged and marked”	Pre-Transport Requirements for Waste Generators, DOE/EH-231-037/0494 [NOT available on the OEPA Website]
I-26/Notes, Line 2	“manifest”	Manifest Requirements, DOE/EH-231-038/0394 (revised); http://tis-nt.eh.doe.gov/oepa/guidance/rcra/manif_rv.pdf
I-26/Notes, Line 3	“generator”	Hazardous Waste Generator Requirements, DOE/EH-231-055/1194 (Revised August 1997); http://tis-nt.eh.doe.gov/oepa/guidance/rcra/gener_rv.pdf
I-27/Slide, Line 1	“Transporters”	Transportation of RCRA Hazardous Waste, DOE/EH-231-013/0494 (revised); http://tis-nt.eh.doe.gov/oepa/guidance/rcra/trans_rv.pdf
I-27/Notes, Line 1	“pre-transport regulations”	Pre-Transport Requirements for Waste Generators, DOE/EH-231-037/0494 [NOT available on the OEPA Website]
I-27/Notes, Line 11	“transportation”	Transportation of RCRA Hazardous Waste, DOE/EH-231-013/0494 (revised); http://tis-nt.eh.doe.gov/oepa/guidance/rcra/trans_rv.pdf
I-28/Slide, Line 2	“Packaging”	Pre-Transport Requirements for Waste Generators, DOE/EH-231-037/0494 [NOT available on the OEPA Website]
I-28/Slide, Lines 3 to 5	“Labels, Marks, Placards”	RCRA Hazardous Waste Container Labeling, Marking, and Placarding Requirements, DOE/EH-231-031/0793; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/labeling.pdf
I-28/Notes, Line 5	“Labels”	RCRA Hazardous Waste Container Labeling, Marking, and Placarding Requirements, DOE/EH-231-031/0793; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/labeling.pdf
I-28/Notes, Line 17	“Marking”	RCRA Hazardous Waste Container Labeling, Marking, and Placarding Requirements, DOE/EH-231-031/0793; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/labeling.pdf
I-28/Notes, Line 28	“placard”	RCRA Hazardous Waste Container Labeling, Marking, and Placarding Requirements, DOE/EH-231-031/0793; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/labeling.pdf

I-30/Slide, Line 1	“Permit”	RCRA Permitting Guide for Hazardous and Radioactive Mixed Waste Management Facilities, DOE/EH(RCRA)9705; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/permit_a.pdf
I-30/Notes, Line 2	“exclusions from permitting”	Types of RCRA Permits, DOE/EH-413/9715; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/permits.pdf
I-30/Notes, Line 4	“permit/interim status”	RCRA Permitting Guide for Hazardous and Radioactive Mixed Waste Management Facilities, DOE/EH(RCRA)9705; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/permit_a.pdf
I-31/Slide, Line 2	“Closure and Post-Closure Care”	Closure of Hazardous and Mixed Waste Management Units at DOE Facilities, DOE/EGD(RCRA)-002/0690 [NOT available on the OEPA Website]
I-31/Notes, Line 5	“closure plan”	RCRA Closure and Post-Closure Plans, DOE/EH-231-009/1291; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/pcplans.pdf
I-31/Notes, Line 9	“clean closure”	RCRA Clean Closure Equivalency Demonstrations, DOE/EH-231-010/1291; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/equivdem.pdf
I-31/Notes, Line 16	“post-closure care permit”	RCRA Post-Closure Permits, DOE/EH-231-021/0593 [NOT available on the OEPA Website]
I-32/Slide, Line 1	“Corrective Action”	RCRA Corrective Action Program Guide (Interim), DOE/EH-0323; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/program/program_all.pdf
I-32/Notes, Line 1	“Corrective action”	RCRA Corrective Action Program Guide (Interim), DOE/EH-0323; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/program/program_all.pdf
I-32/Notes, Line 2	“corrective action management units”	CAMU/TU Final Rule Issued, RCRA Regulatory Bulletin, May 12, 1993; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/camu_tu.pdf
I-32/Notes, Line 2	“temporary units”	Corrective Action Management Units and Temporary Units, DOE/EH-231-043/0394; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/camu.pdf
I-32/Notes, Line 8	“compliance with both RCRA and CERCLA”	A Comparison of the RCRA Corrective Action and CERCLA Remedial Action Processes, DOE/EH-0365; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/rcracomp.pdf
I-32/Notes, Lines 11-12	“federal facility agreements”	Selected EM Cleanup and Compliance Agreements, http://www.em.doe.gov/ffaa/index.html

I-35/Slide, Line 1	“LDR”	LDR Program Overview, DOE/EH-231/005-0293; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/ldr-over.pdf
I-35/Slide, Line 2	“HSWA”	OEPA Environmental Law Summary: Resource Conservation and Recovery Act; http://tis-nt.eh.doe.gov/oepa/law_sum/RCRA.HTM
I-35/Notes, Line 1	“land disposal restrictions (LDR)”	LDR Program Overview, DOE/EH-231/005-0293; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/ldr-over.pdf
I-36/Slide, Line 1	“Land Disposal”	LDR Program Overview, DOE/EH-231/005-0293; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/ldr-over.pdf
I-37/Slide, Line 1	“LDRs”	LDR Program Overview, DOE/EH-231/005-0293; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/ldr-over.pdf
I-37/Slide, Line 2	“Treatment standards”	Environmental Standards: EnviroSearch, http://tis-nt.eh.doe.gov/oepa/standards/
I-38/Slide, Line 1	“Storage Prohibited”	Waste Management and the Land Disposal Restriction Storage Prohibition, DOE/EH-231-011/0592; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/storage.pdf
I-38/Notes, Line 1	“prohibits the storage of wastes”	Waste Management and the Land Disposal Restriction Storage Prohibition, DOE/EH-231-011/0592; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/storage.pdf

I-39/Slide, Line 3	“vents”	RCRA Air Emission Standards for Hazardous Waste Treatment, Storage, and Disposal Facility (TSDF) Process Vents, DOE/EH-231-020/0193; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/vents.pdf
I-39/Slide, Line 3	“equipment leaks”	RCRA Air Emission Standards for Hazardous Waste Treatment, Storage, and Disposal Facility (TSDF) Equipment Leaks, DOE/EH-231-019/0193; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/equipmnt.pdf
I-39/Slide, Lines 6-8	“surface impoundments, tanks, and container storage”	Organic Air Emission Standards; Revised Final Rule Issued, RCRA Regulatory Bulletin; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/ccregbl2.pdf
I-39/Notes, Line 4	“process vents”	RCRA Air Emission Standards for Hazardous Waste Treatment, Storage, and Disposal Facility (TSDF) Process Vents, DOE/EH-231-020/0193; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/vents.pdf
I-39/Notes, Line 6	“ piping and equipment”	RCRA Air Emission Standards for Hazardous Waste Treatment, Storage, and Disposal Facility (TSDF) Equipment Leaks, DOE/EH-231-019/0193; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/equipmnt.pdf
I-39/Notes, Line 9	“management of volatile organics”	RCRA Subpart CC Organic Emission Standards Technical Amendment: Questions and Answers, DOE/EH(RCRA)9701; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/subpartcc.pdf
I-39/Notes, Line 10	“tanks”	RCRA Subpart CC Organic Air Emission Standards: Tanks, DOE/EH-413/9805; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/ccinfobrief.pdf
I-39/Notes, Line 10	“containers”	RCRA Subpart CC Organic Air Emission Standards: Containers, DOE/EH-413/9806; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/cccontainers.pdf
I-42/Notes, Line 5	“RCRA Civil Penalty Policy”	Office of Enforcement and Compliance Assessment; http://es.epa.gov/oeca/ore/red/rcra.pdf
I-42/Notes, Line 13	“waiver of sovereign immunity”	Federal Facility Compliance Act Implications for RCRA Corrective Action, DOE/EH-231-015/0994; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/impl.pdf
I-42/Notes, Line 15	“FFCA of 1992”	OEPA Environmental Law Summary: Federal Facility Compliance Act http://tis-nt.eh.doe.gov/oepa/law_sum/FFCA.HTM

I-46/Notes, Line 5	“Safe Drinking Water Act (SDWA)”	DOE Environmental Policy and Guidance, Safe Drinking Water Act; http://tis-nt.eh.doe.gov/oepa/guidance/sdwa.htm
I-46/Notes, Line 7	“permit-by-rule”	Types of RCRA Permits, DOE/EH-413/9715; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/permits.pdf
I-46/Notes, Line 10	“Clean Water Act”	DOE Environmental Policy and Guidance, Clean Water Act/Oil Pollution Act; http://tis-nt.eh.doe.gov/oepa/guidance/cwa.htm
I-46/Notes, Line 11	“exclusions”	Exclusions and Exemptions from RCRA Hazardous Waste Regulations, DOE/EH-231-034/0593; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/exclude.pdf
I-46/Notes, Line 13	“Clean Air Act”	DOE Environmental Policy and Guidance, Clean Air Act; http://tis-nt.eh.doe.gov/oepa/guidance/caa.htm
I-46/Notes, Line 17	“overlap”	A Comparison of the RCRA Corrective Action and CERCLA Remedial Action Processes, DOE/EH-0365; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/rcracomp.pdf
I-46/Notes, Line 17	“CERCLA”	DOE Environmental Policy and Guidance, CERCLA/EPCRA; http://tis-nt.eh.doe.gov/oepa/guidance/cercla.htm
I-46/Notes, Lines 18-19	“applicable or relevant and appropriate requirement (ARAR)”	OEPA's ARARs Web site, http://tis-nt.eh.doe.gov/oepa/arars
I-46/Notes, Line 21	“AEA”	DOE Environmental Policy and Guidance, Radiation Protection (Atomic Energy Act); http://tis-nt.eh.doe.gov/oepa/guidance/aea.htm